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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
BLENMAN, AVALON	
ART UNIT	**PAPER NUMBER**
2153	

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/030,346	CHEN, XIAOBAO	
	Examiner	Art Unit	
	Avalon Blenman	2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 October 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) *1 and 7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-14 are currently pending in this application.

It is noted by examiner that applicant has submitted three sets of claims: original claims 1-14 (pages 36-38), amended claims 1-14 ("Computer Red-lined Version", pages 6-9), and amended claims 1-14 ("Preliminary Amendment"). Examiner has considered the Preliminary Amended claims only.

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No (EPO) 9930341.0, filed on April 20th 1999. Accordingly, the effective filing date for the subject matter defined in the pending claims in this application is April 20th, 1999.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on October 19th, 2001 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Objections

Claims 1 and 7 are objected to because of the following informalities; appropriate correction is required.

In referencing to claim 1, it is suggested applicant spell out the Internet Protocol (IP) acronym in its first recitation in the claims.

In referencing to claim 7, it is suggested applicant spell out the Resource Reservation Protocol (RSVP) acronym in its first recitation in the claim.

Claim Rejections - 35 USC § 112

Claims 1 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being narrative and indefinite. They appear to be replete with grammatical errors. appropriate correction is required.

In referencing to claim 1, the phrase "...a foreign agent *supporting* associated with at least one further mobile node..." is unclear (lines 3-5). Should the phrase have read: a foreign agent associated with at least one further mobile node? The claim will be treated as best understood by examiner.

In referencing to claim 11, the phrase "...matches the flow identification information of a quality of service session between *the other of the* mobile nodes and a correspondent node." is unclear (lines 5-6). Should the phrase have read: matches the flow identification information of a quality of service session between one of the other mobile nodes and a correspondent node? The claim will be treated as best understood by examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4, and 8-10, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agraharam et al. (US Patent 6,407,988), hereafter referred to as Agraharam, in view of McCann et al. (US Patent 6,052,725), hereafter referred to as McCann.

In referencing to claims 1 and 9, Agraharam discloses a method (col. 5, lines 27-44) and a mobile IP environment (fig. 2) of establishing an IP quality of service session (route optimization, col. 6, lines 21-33) between a correspondent node (fig. 2, #150, Correspondent Host, CH) and a mobile node (fig. 2, #100.1, Mobile Host, MH), the

mobile node having a home address in a home network (fig. 2, #111.1) and being temporarily connectable in a foreign network (fig. 2, #111.2) having a foreign agent (fig. 2, #104.2, FA) associated with at least one further mobile node (fig. 1 #100.1 & 100.3), wherein IP packets are directed to the mobile node from the correspondent node via the home network, the quality of service session being maintained in dependence on flow identification information in the IP packets. Agraharam further discloses that temporary flow identification information (temporary foreign address) is allocated for a quality of service (QoS) session to be configured (col. 7, line 13-15).

Agraharam does not explicitly disclose a means of determining whether the flow identification information of a QoS session to be configured matches that of an existing QoS session. Nonetheless, this feature would have been an obvious modification to the method and mobile IP environment disclosed by Agraharam as evidenced by McCann.

In analogous art, McCann discloses a method (fig.1) of establishing an IP quality of service session (lower-latency, col. 3, lines 14-15) between a correspondent node (any computer on IP network, col. 2, lines 63-65) and a mobile node (fig, 1, #16, Communication Device), the mobile node having a home address in a home network (fig. 1, #12, Local Area Network) and being temporarily connectable (col. 8, lines 13-14) in a foreign network (fig. 1, #30, Remote Coverage Area) having a foreign agent (fig. 1, #34, Remote Router, col. 5, lines 32-35).

McCann further discloses a method comprising (col. 5, lines 54-65, col. 6, lines 7-10):

- (means for, claim 9) determining whether the flow identification information (non-local dynamic IP address) of a quality of service session to be configured matches the flow identification information of an existing quality of service session (one that has not been reclaimed)

McCann does not explicitly state that a match is determined between an exiting flow identification information and one to be configured. However, this is implied since the only flow identification information (non-local dynamic IP address) available for assignment are those that have been reclaimed/de-allocated. It is therefore inherent that once flow identification information exists in another session (a "match"), it is unavailable for use, and is not "able" to be assigned to the session to be configured. McCann therefore inherently teaches:

- (the means being, claim 9) responsive to a match, allocating temporary flow identification information (non-local dynamic IP address) to the quality of service session to be configured

Given these features, a person of ordinary skill in the art would have readily recognized the advantages and desirability of combing the teachings of Agraharam's method with that of McCann where once it is determined that a QoS session to be

configured does not match one that already exists, a temporary flow identification information to the QoS session to be configured is allocated.

The motivation for doing so would be to avoid QoS sessions between correspondent nodes and mobile nodes on a foreign network form overlapping so as to avoid information being routed to the incorrect mobile node.

In referencing to claim 2, Agraharam discloses (col. 4,lines 51-59):

- the temporary flow identification information (CoA) is allocated between the home network and the foreign network

  [note: examiner points out that Agraharam uses CoA and foreign address interchangeably (col. 7, 33-36)]

In referencing to claims 3, 4, 10, and 12, Agraharam in view of McCann teach the limitations (concerning determining a "match") of claims 1 and 9 as set forth above.

Agraharam further discloses:

- (claim 3) the step of determining a match and allocating temporary flow identification information (CoA) are carried out in the foreign network (by the foreign agent in the foreign network, col. 4, lines 51-59)

- (claim 4) the temporary flow identification information (CoA) is notified ("Registration & Address Update message) to the home network (to the home agent in the home network) by the foreign network (by the foreign agent in the foreign network, col. 7, lines 26-31)

- (claim 10) the means to determining is provided in the foreign network (by the foreign agent in the foreign network, col. 4, lines 51-59)

- (claim 12) the means for allocating temporary flow identification information (CoA) is provided in the foreign network (by the foreign agent in the foreign network, col. 4, lines 51-59)

In referencing to claim 8, Agraharam discloses:

- the temporary flow identification information (CoA) is substituted in the home network (by the home agent in the home network, col. 7, lines 33-36) and replaced at the foreign agent (col. 7, lines 39-42)

In referencing to claim 11, Agraharam discloses that temporary flow identification information (CoA) is allocated for a (QoS) session to be configured (col. 7, line 13-15). Agraharam is silent to a means of determining whether the flow identification information of a QoS session between one of the mobile nodes and a correspondent node matches the flow identification information of a QoS session between the one of

the other mobile nodes and a correspondent node. It is implied that Agraharam's foreign network can house 2 mobile nodes (fig. 1 #100.1 & 100.3 & col. 4, lines 22-24). Nonetheless, this feature would have been an obvious modification to the method disclosed by Agraharam evidenced as by McCann

As set for above in reference to claim 9, McCann inherently teaches:

- the measure further adapted to determine whether the flow identification information (non-local dynamic IP address) of a quality of service session between one of the mobile nodes and a correspondent node matches the flow identification information of a quality of service session between one of the other mobile nodes and a correspondent node (col. 5, lines 54-65, col. 6, lines 7-10)

Given these features, a person of ordinary skill in the art would have readily recognized the advantages and desirability of combing the teachings of Agraharam with those of McCann where once it is determined that a QoS session to be configured does not match one that already exists, a temporary flow identification information to the QoS session to be configured is allocated.

The motivation for doing so would be again as set forth above in reference to claim 9, to avoid QoS sessions between correspondent nodes and mobile nodes on a foreign network form overlapping so as to prevent information from being misrouted to the incorrect mobile node on the foreign network.

In referencing to claim 13, Agraharam discloses (col. 7, lines 26-31, 33-36):

- the home network (home agent in the home network) includes means for substituting the temporary flow identification information (CoA) to the quality of service session responsive to the means ("Registration & Address Update message) for allocating the temporary flow identification information (CoA) in the foreign network (by the foreign agent in the foreign network)

Claims 5 and 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Agraharam in view of McCann as applied to claim 1 above, and further in view of Borella et al. (US Patent 6,697,354), hereafter referred to as Borella.

Agraharam in view of McCann teach all the limitations of claim 1 as set forth above. Agraharam in view of McCann do not explicitly teach that the temporary flow identification information is an identification of an application provided at the mobile node, nor that a port number identifies this application. Nonetheless, this feature would have been an obvious modification to the method disclosed by Agraharam & McCann evidenced by Borella.

In analogous art, Borella discloses a method (col. 20, lines 29-38, 46-49).of establishing a session between a correspondent node (fig. 16, #232, correspondent) and a mobile node (fig. 16, #210), the mobile node having a home address in a home

network (fig. 16, #212, Home Subnet) and being temporarily correctable in a foreign network (fig. 16, #218, Foreign Subnet) having a foreign agent (fig. 16, #216) supporting associated with at least one further mobile node (col. 19, lines 20-22), wherein IP packets are directed to the mobile node from the correspondent node via the home network, the quality of service session being maintained in dependence on flow identification information in the IP packets.

[It is noted by examiner that Borella uses the terms mobile node/mobile 1st network device, home network/1st network, foreign agent/3rd network device, and foreign network/2nd external network interchangeably (see col. 4, lines 21-39)].

Borella further discloses that the flow identification information comprises an identification of an application (protocol) provided at the mobile node, wherein (col. 15, lines 26-30, col. 7, line 1-13):

- the step of allocating temporary flow identification information (ephemeral globally unique port) comprises allocating a temporary identification of the application (protocol)

- the application (protocol) is identified by a port number (globally unique port/fig. 19, DNAT port 2001 of foreign subnet)

Given these features, a person of ordinary skill in the art would have readily recognized the advantages and desirability of combing the teachings of Agraharam &

McCann in further view of Borella where the temporary flow information could identify an application provided at the mobile node.

The motivation for doing so would be so that the application resident on the mobile node would indicate the protocol for which it will accept a connection on a specified port number. That way routing would be based exclusively on the given destination point of the mobile node (temporary CoA and protocol port).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Agraharam in view of Jain et al. ("Mobile Internet Access and QoS Guarantees Using Mobile IP and RSVP with Location Registers"), hereafter referred to as Jain.

Agraharam does not explicitly disclose that the quality of serviced session is a RSVP session. Nonetheless, this feature would have been an obvious modification to the method disclosed by Agraharam as evidenced by Jain.

In analogous art, Jain discloses a method of establishing a quality of service session between a correspondent node (CH, Correspondent Host) and a mobile node (MH, Mobile Host), the mobile node having a home address in a home network and being temporarily correctable in a foreign network having a foreign agent (fig. 2, FA, Foreign Agent), wherein IP packets are directed to the mobile node from the correspondent node via the home network (page 1690, col. 1, 3rd paragraph, 3rd sentence – col. 2, 1st paragraph). Jain further discloses:

- the quality of service session is an Resource Reservation Protocol (RSVP) session (page 1691, col. 1, 3rd paragraph, last sentence)

Given this feature, a person of ordinary skill in the art would have readily recognized the advantages and desirability of combing the teachings of Agraharam's method with that of Jain's where the QoS session between the correspondent node and the mobile node is a RSVP session.

The motivation for doing so would be to reduce the load on the foreign agent by avoiding encapsulation of the data packets and still allowing the same QoS to be maintained between all segments along the path between the correspondent node and the mobile mode.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Agraharam in view of Borella.

Agraharam teaches all the limitations of claims 9 and 13 as set forth above. Agraharam does not explicitly disclose that the foreign agent removed the substituted flow identification information Nonetheless, this feature would have been an obvious modification to the system disclosed by Agraharam as evidenced by Borella

Borella discloses (col. 20, lines 34-41, 46-49):

- the foreign agent is adapted to remove the substituted flow identification information (located in the header)

Given this feature, a person of ordinary skill in the art would have readily recognized the advantages and desirability of combing the teachings of Agraharam and Borella where the foreign agent would remove the substituted flow identification information.

The motivation for doing so would be so that unnecessary parameters are not stored or transmitted in the IP headers. It is not necessary the foreign agent to store the CoA or transmit it to the mobile node. The CoA of the mobile node will remain the same provided it remains in the same foreign network.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Orsic (US Patent 6,147,986) teaches a method to address data packets to a mobile node when it roams to a foreign network.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Avalon Blenman whose telephone number is (571) 272-5864. The examiner can normally be reached on Mon-Fri, 7:00 AM - 4:30 PM (even date Mons. off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (571) 272-3949. The fax phone

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AB

SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100